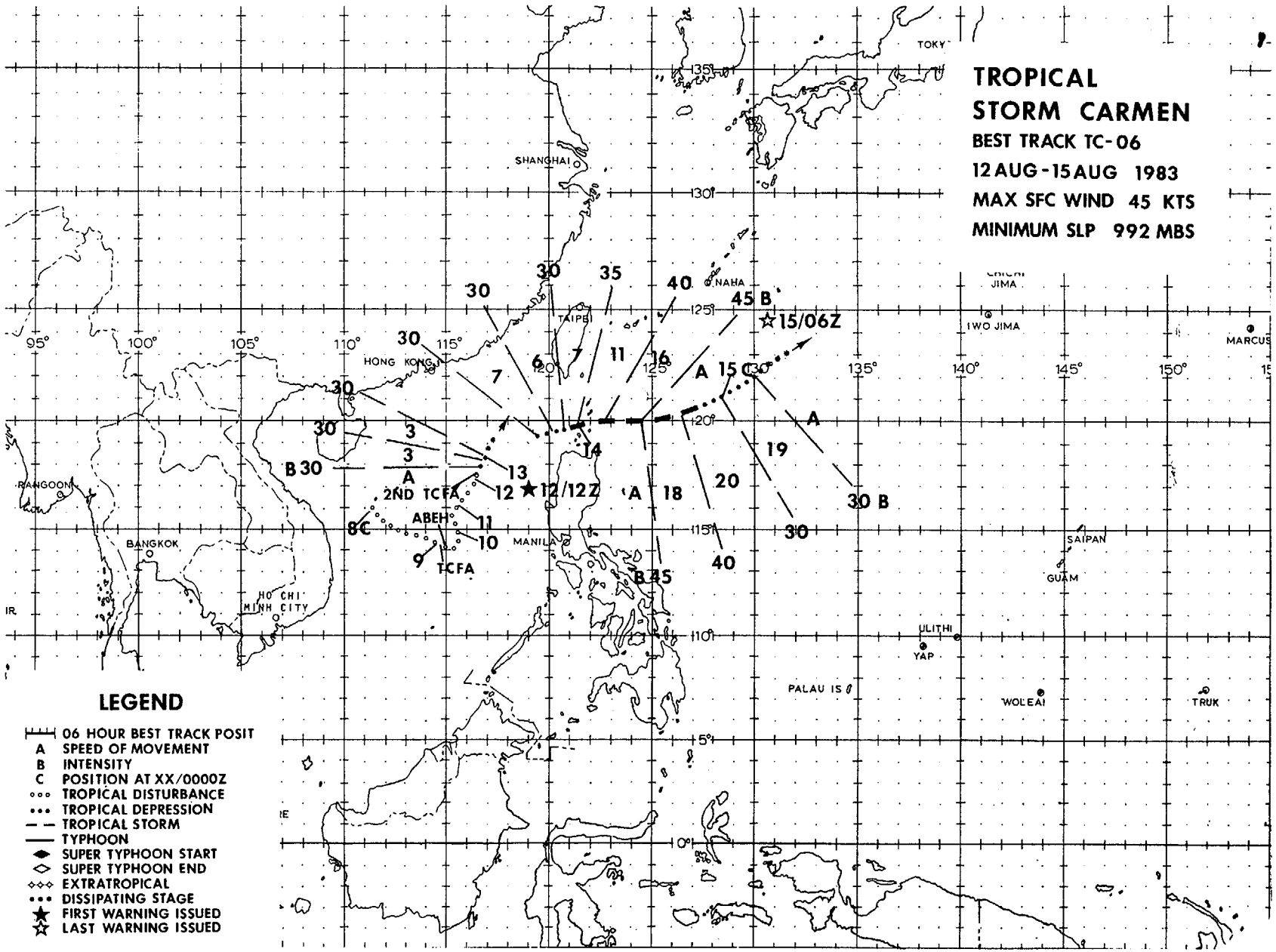
TROPICAL
STORM CARMEN
BEST TRACK TC-06
12 AUG - 15 AUG 1983
MAX SFC WIND 45 KTS
MINIMUM SLP 992 MBS
☆15/06Z
2ND TCFA
12 ★ 12/12Z
ABEH
TCFA
LEGEND
06 HOUR BEST TRACK POSIT
A SPEED OF MOVEMENT
B INTENSITY
C POSITION AT XX/0000Z
TROPICAL DISTURBANCE
TROPICAL DEPRESSION
TROPICAL STORM
TYPHOON
SUPER TYPHOON START
SUPER TYPHOON END
EXTRATROPICAL
DISSIPATING STAGE
FIRST WARNING ISSUED
LAST WARNING ISSUED
SHANGHAI
TAIPEI
HONG KONG
NAHA
IWO JIMA
MARCUS
RANGOON
BANGKOK
HO CHI MINH CITY
MANILA
SAIPAN
GUAM
ULITHI
YAP
PALAU IS
WOLEAI
TRUK

Tropical Storm Carmen had its origins in the monsoon trough which was well established over Southeast Asia and moved into the South China Sea in early August. A low level circulation first located about 200 nm (370 km) east of Vietnam persisted as a closed circulation on the surface streamline analysis and as an area of enhanced convective activity on satellite imagery for several days while moving slowly eastward along the trough axis. At the same time, Super Typhoon Abby was undergoing rapid intensification in the Philippine Sea. Abby's outflow generated a strong easterly flow at upper-levels which was expected to inhibit the development of the tropical disturbance in the South China Sea. However, on 9 August, satellite imagery at 0000Z indicated that outflow was developing over the South China Sea disturbance. Synoptic data also indicated that the low-level circulation had become better organized and had associated surface winds of 20 kt (10 m/s) and an MSLP of 1002 mb. This increase in organization prompted the issuance of a TCFA at 090300Z.

The disturbance remained in alert status for the next three days as it tracked slowly north-northeastward with little change in intensity. Aircraft reconnaissance at 120247Z indicated that the disturbance was still poorly organized with an MSLP of 1000 mb. Satellite imagery during this period also indicated little increase in convective organization. At 120900Z, satellite imagery indicated that the disturbance had developed a small central convective feature. The initial warning for Carmen as a tropical depression was issued at 121200Z on the basis of this increase in convective organization.

For the rest of the day, Carmen tracked slowly north-northeastward without any further development in convective organization. Suddenly, between 130000Z and 130600Z, the depression appeared to rapidly accelerate from 3 to 26 kt (2-13 m/s) and move east-northeastward toward the Luzon Straits. Warnings at the time reflected this rapid acceleration. However, in post-analysis, satellite imagery indicated the presence of several weak circulations (eddies) near the Luzon Straits during this period. A new circulation established itself 70 nm (130 km) to the northwest of Luzon, approximately 170 nm (315 km) east of Carmen. It was this new circulation that was tracked from 130600Z onward as Carmen. The disturbance that was initially designated Carmen, continued its north-northeastward track and persisted as a small area of convection for another 18 hours before eventually dissipating over water on 14 August. The new disturbance that was now designated Carmen, moved east-northeastward through the Luzon Straits, embedded in the low-level flow feeding into Super Typhoon Abby in the Philippine Sea. In spite of the hostile shearing environment and the fact that the depression was embedded in Abby's inflow, intensification of this circulation continued and upgrade to tropical storm occurred on the 131800Z warning.

Carmen continued to intensify, reaching maximum intensity of 45 kt (23 m/s) at 141200Z while accelerating toward Abby. Figure 3-06-1 shows Carmen near maximum intensity 100 nm (185 km) northeast of Luzon. Less than 12 hours later, at 142300Z, Carmen was almost completely absorbed into Abby's circulation and was no longer "fixable" by reconnaissance aircraft.

The final warning on Carmen, now a tropical depression, was issued on the 15th at 0600Z when it became impossible to identify the remnants of the system on satellite imagery.

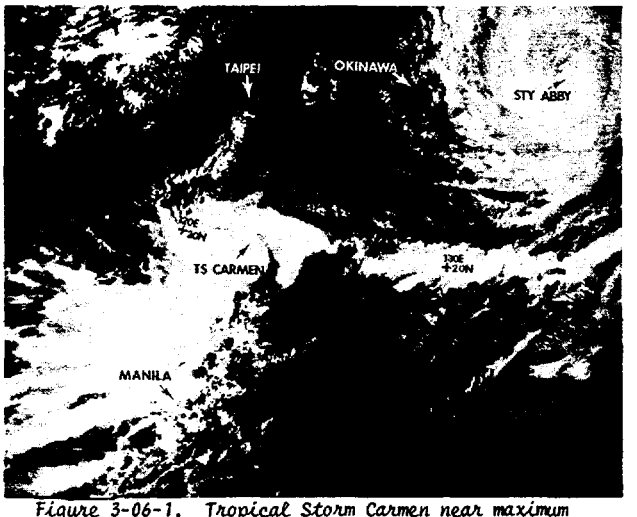

Figure 3-06-1. Tropical Storm Carmen near maximum intensity 100 nm (185 km) northeast of Luzon. Super Typhoon Abby (upper right) completely absorbed Carmen into its circulation less than a day later (140632Z NOAA 7 visual imagery).